



# **Sustainability in Healthcare Institutions: Managerial Implications**

Dr Cheryl Chong

National University Health System, Singapore

# CONTEXT

- Healthcare organizations are increasingly recognized as major contributors to global greenhouse gas emissions.
- Their carbon footprint is substantial, even surpassing that of high-emission sectors like aviation and shipping.
- This significant impact places a growing ethical and societal responsibility on HCOs to adopt sustainable practices.
- In response to environmental concerns and increasing pressure, a rising number of healthcare organizations are initiating various sustainability measures to reduce their ecological footprint across different operational areas.

# METHODS

## SYSTEMATIC REVIEW

- **Aim:** Analyse sustainability practices in healthcare.
- **Inclusion Criteria:** Studies discussing measurable outcomes of sustainability initiatives in healthcare, such as waste reductions, energy consumption, or greenhouse gas emissions.
- **Screening:** Identified articles were reviewed against the inclusion criteria.
- **Relevance Check:** Studies were evaluated for relevance and applicability to the research question *before* inclusion.
- **Data Extraction:** For included articles, the following was extracted:
  - Methodology, Sample size, Data collection methods
  - Types of initiatives implemented
  - Frameworks used for implementation
  - Effectiveness of the initiatives
  - Limitations of the initiatives

# RESULTS

## EFFECTIVE SUSTAINABLE PRACTICES IN HEALTHCARE

*The review included 36 articles highlighting effective sustainable practices in healthcare institutions.*

### **Key Themes:**

1. Energy Efficiency and Renewable Energy
2. Waste Management and Reduction
3. Green Procurement and Chemical Reduction

# RESULTS

## KEY THEME 1: ENERGY EFFICIENCY & RENEWABLE ENERGY

### Key Practices:

- Increasing implementation of energy-saving technologies and renewable energy sources to minimize consumption
- Substantial energy savings achieved through electrical system upgrades
- Significant reductions in carbon emissions (up to 98%) reported by minimizing desflurane use in anesthesia, demonstrating the impact of targeted measures

*Strategic investments in energy efficiency and targeted interventions in areas like anesthesia can lead to significant environmental benefits.*

# RESULTS

## KEY THEME 2: WASTE MANAGEMENT & REDUCTION

### Key Practices:

- Implementing comprehensive waste segregation protocols
- Establishing robust recycling programs
- Focusing on waste reduction at the source
- Ensuring responsible management of hazardous materials

*Implementing robust waste management and reduction strategies are crucial for minimizing pollution and promoting environmental health.*

# RESULTS

## KEY THEME 3: GREEN PROCUREMENT

### Key Practices:

- Implementing comprehensive green procurement policies to reduce the use of harmful chemicals and plastics
- Prioritizing biodegradable and non-toxic supplies
- Sourcing sustainable food options
- Selecting medical products with reduced environmental footprints

*Prioritizing green procurement policies and measures will be key in enabling healthcare institutions to tackle environmental concerns at its root cause.*

# MANAGERIAL IMPLICATIONS

## LEADING THE CHANGE TOWARDS SUSTAINABILITY

- **Strong leadership** is crucial for driving and resourcing sustainability initiatives.
- Leaders must champion sustainability as a core organizational value, ensuring integration into strategic planning and decision-making processes.
- Invest in staff training can empower employees to participate in sustainability efforts.

*By providing knowledge and skills on sustainable practices, organizations can foster a culture of environmental responsibility.*



# MANAGERIAL IMPLICATIONS

## TRACKING PROGRESS & PARTNERING FOR IMPACT

- Implementing robust monitoring and evaluation systems help track progress, identify areas for improvement, and optimize resource allocation
- Data-driven insights inform decision-making and ensure sustainability initiatives align with organizational goals.
- Collaborating with other healthcare organizations, suppliers, and policymakers facilitates knowledge sharing, leverage economies of scale, and accelerate the adoption of sustainable practices.

*With data driven insights and robust collaborations with other partners, healthcare organizations can maximise their impact on promoting environmentally friendly measures.*



# THANK YOU

**DR CHERYL CHONG**

cherylchongzy@yahoo.com  
National University Health System  
Singapore



[WWW.EHMA.ORG](http://WWW.EHMA.ORG)  
[WWW.EHMACONFERENCE.ORG](http://WWW.EHMACONFERENCE.ORG)